Bengal.

5. **Soroseris hookeriana** (Clarke) Stebbins in Mem. Torr. Bot. Club. 19, 3: 45.1940 *Crepis hookeriana* Clarke, Comp. Ind. 255.1876.

(Asteraceae). Dwarf perennial herbs. Leaves oblong to lanceolate, shallowly lobed, toothed or entire. Flowering stems 3-10 cm high. Inflorescence compact, almost stalkless, of many yellow flowered-heads and a rosette of narrow leaves. Ray-florets 4, oblong, 1 - 1.7 cm, conspicuously 5-toothed at apex; involucre bracts linear, blunt, woolly at base, almost glabrous towards apex.

Fl. & Fr.: July-Sept.

Specimens examined: Katao, *ca* 4800m, R.C. Srivastava, s.n. dt. Sept. 1989 (BSHC).

Notes: Rao *et al.* (1988) recognised the occurrence of only one species viz. *Soroseris deasyi* (S. Moore) Stebbins in India. However, the identity of the present collection was confirmed by Dr. C. Jeffrey, Royal Botanic Gardens, Kew.

6. **Zephyranthes candida** Herb. in Bot. Mag.t. 2607.1826.

Herbs. Bulbs *ca* 2.5 cm in diam., with prominent neck. Leaves linear, upto 30 cm long, present during flowering. Flowers white, perianth *ca* 5 cm long, without tube, segments obtuse or short acute, upto 1.2 cm wide. Stamens much shorter than the segments; styles somewhat exceeding stamens; stigma slightly 3-notched.

Fl. & Fr.: Aug.

Specimen examined: Gangtok, *ca* 1750 m, R.C. Srivastava, s.n. dt. July 1992 (BSHC!).

Notes: Probably an escape but now almost naturalised. Not known so far from India (*cf.* Karthik. *et al.* 1989).

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26. A NEW RECORD FOR FLORA OF INDIA FROM SIKKIM

During the course of studies on Flora of Sikkim, we came across an interesting collection which was later identified as *Berberis everestiana* Ahrendt var. *ventosa* Ahrendt. This taxon has not been recorded from India so far. Hence, a brief description with data on distribution, flowering/ fruiting period etc. is provided.

Berberis everestiana Ahrendt var. *ventosa* Ahrendt, J. Linn. Soc. (Bot.) 57:117.1961.

Small shrubs. Stems very sulcate; shoots reddish; pale yellow with age. Internodes 5-12 mm. Spines 3(-5)-fid, 5-12 mm. Leaves obovate, 5-15 x 3-8 mm, entire or with margins with 2-3 spinose serrations. Flowers solitary. Pedicels 5-8 mm long. Outer sepals ovate- elliptic, *ca* 6 x 3 mm, subacute; inner sepals obovate, 7.5 x 4.5 mm. Petals *ca* 6 x 3 mm, subacute; inner sepals obovate 7.5 x 4.5 mm. Petals *ca* 6 x 3 mm. Stamens *ca* 4 mm, produced, apiculate. Berries oblong-ovoid, ca 7 x 4 mm.

Fl. & Fr.: June-Sept.

Distrib.: Nepal, India (Sikkim)

Specimens examined: North Sikkim district:

Muguthang, Army camp area, S.K. Rai 9490 (BSBC!).

Note: This variety is distinguishable from var. *everestiana* by the following main characters:

DISTINGUISHING CHARACTERS OF TWO VARIETIES OF *Berberis everstiana* AHRENDT

S.N.	var. *everestiana*	var. *ventosa*
1.	Leaves entire, never spinulose	Leaves sometimes spinulose
2.	Stamens truncate	Stamens apiculate
3.	Fruits 9-10 mm	Fruits *c* 7 mm
4.	Seeds purple	Seeds yellow-brown

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27. STUDIES OF VIVIPAROUS GERMINATION IN *ARTOCARPUS HETEROPHYLLUS* LAM

Vivipary is the germination of seeds in the fruit while the fruit still remains attached to the plant; it is particularly common in mangrove plants. There are relatively few certain records of viviparous germination in mesophytes like *Pennisetum* (Reddy and Chatterjee, 1976), *Livistona chinensis* (Kulkarni and Pandey, 1976), *Allium cepa* (Foja *et al.*, 1967), *Citrullus vulgaris* (Singh and Sharma, 1972), *Sechium edule* (Katiyar, 1976), etc. The present case is a new addition to the list.

200 mature fruits of *Artocarpus heterophyllus* were collected from different regions of Kanyakumari district of Tamil Nadu, India and from markets to study the presence of viviparous germination in them. Germinated seeds in the fruits were collected from the ripe fruits by cutting them with a sharp knife. Of the 200 fruits studied, 23 fruits had germinated seeds in them. 573 germinated seeds were collected from the 23 fruits. Length of shoot and root of each of the seedlings were measured using a metre scale. The maximum height of the shoot was 9.8 cm, and of the root was 10.2 cm. The average height of the shoots was 6.3 cm, and of the roots was 7.6 cm. Then 300 dormant seeds were collected from fruits that did not have germinated seeds and sowed in the garden soil to raise seedlings. The seeds took four days for germination under normal conditions. After germination, 25 seedlings were uprooted from the nursery every day without damaging their roots and the average height of shoots and roots were measured as usual. The height of the shoot reached 6.3 cm on the 6th day after germination, and of the roots reached 7.6 cm on the 7th day after germination. The seedlings took 9 days for producing shoots of 9.8 cm height. The shoots of viviparous seedlings were pale yellow in colour with soft stem. They became green within two days when they were exposed to sunlight. The growth was somewhat rapid in roots as compared to shoot growth. But in artificial germination the shoot growth was higher than the root growth. This shows that the internal environment of such fruits is more suitable for seed germination than the soil.

The ripe ovaries around the germinated as well as dormant seeds were collected from viviparous and non-viviparous fruits respectively, and their moisture content was measured using weighing method. The moisture percentage was the same (89.3%). This was also done in ovaries whose seeds were at the stage of sprouting. The moisture percentage of ovaries containing sprouting seeds was 79.1% and that of ovaries containing non-viviparous seeds was